LT.-COL. R. W. BURTON, I.A. (Retd.)

1. The Hailey National Park

The following is contributed by Mr. S. S. Negi, D.F.O., Ramnagar

Forest Division, U.P. (December 1949):

'When the article on the Hailey National Park was published in the *Indian Forester* of November 1936, the Park had been in existence only for a little over a year. The wild animals, inside the boundaries of the park were then not notably less shy than those in the forests outside the boundaries.

2. A strict protection of about 15 years, since then, has enormously increased the number of wild life inside the Park and has made them much tamer. It is not unusual to meet a herd of chital, sometimes of up to 100 heads, grazing peacefully by the roadside, while a visitor is passing by in a moving vehicle or on an elephant. The animals lift their heads, without much concern, merely to see what the intruder is like, and then continue grazing as if nothing has happened. They are sometimes somewhat shy of visitors on foot and run off some distance and keep staring from there till the intruder has passed out of sight.

3. The tigers and panthers have also grown considerably carefree. They are often found roaming about in open areas in daytime, and when they come across a man they look at him with curiosity but without any sense of fear. It has sometimes been necessary to shout at a tiger to drive him away from staring at one too interestedly!

4. The animals appear to be conscious of protection inside the boundaries of the Park. It has often been noticed along the boundary of the Park that a herd, on seeing a passer-by, will run across into the sanctuary and look from there with the satisfaction of safety, even though their natural retreat be in the opposite direction.

In connexion with the above is reproduced an account of the Park written in July 1939 by Mr. F. W. Champion the then D.F.O. of the

Kalagarh Forest Division.

It may be remarked regarding the hydro-electric dam across the Ramganga River 'which has largely cut off the migrating fish from their spawning areas' that similar harm has been done in other rivers of India, and in some canals. An article on this important subject

will be published in the Journal.

'This fine National Park, one of the first permanent National Parks as distinct from temporary sanctuaries to be established in the East, owes its inception to Lord Hailey, who, when Governor of the United Provinces in 1934, asked the Forest Department to make proposals for the creation by the legislative authority of a National Park on the lines recommended by the International Wild Life Conference of 1933. Mr. E. A. Smythies, I.F.S., now (1939) Chief Conservator of Forests in the United Provinces, was asked to make definite proposals for a suitable area in the Western Circle and he chose the famous Patli Doon on the borders of the Ramganga River in Kalagarh Forest Division, combined with a portion of hill forest to the south of it, lying partly in Kalagarh and partly in Ramnagar

Divisions. His proposals were accepted and an area of about 125 square miles was constituted as a permanent National Park under the U.P National Parks Act of 1935. This was a great step forward in the preservation of wild life in India and it is to be hoped that, in due course, this beautiful area of hill and dale will develop into a permanent refuge for the disappearing wild animals of this country and a quiet resort for visitors who wish to see the splendid wild creatures of India in an undisturbed and natural state. It must always be remembered, however, that it takes a long time to remove the inborn fear of man exhibited by wild animals and one cannot expect much in the very few years that the Park has been in existence. It took 25 years to tame the animals in the fine Kruger National Park of South Africa, and we must expect much the same sort of thing here, but the chital and sambar are already (1939) beginning to respond to the absence of firearms and will allow a motor car to pass quite close, although they still keep their distance from tame elephants and human beings on foot. The tigers, so far, are much the same as they were before, although they are quite often to be seen at a distance in the day-time. In due course, when a new generation of tigers that have never been hunted grows up, it is more than likely that the tigers will carry on their daily life regardless of the presence of human beings in the way that lions are now to be seen doing in the National Parks of Africa.

The area chosen for the Hailey Park is almost ideal for the purpose, being noted for its beauty and containing as it does almost every type of Himalayan foot-hill forest. Perhaps the finest portion of all is the Patli Doon itself, which consists of a broad flat valley of old river terraces, two or three miles broad and fifteen miles long, covered for the most part by great seas of waving tiger grass, which, after it is burnt in the spring, becomes a green sward of short new grass so beloved of chital and hog deer. Among the grass are patches of forest and scattered specimens of dhak, semal and Bauhinia, with dense patches of shisham bordering the beautiful Ramganga river, which flows through the doon, meandering from side to side and changing its course every year. This area in the spring, with the lovely green of the new leaves of the shisham, the gorgeous scarlet flowers of the flame-of-the-forest and silk cotton trees, the mauve blossoms of the Bauhinia and sandan trees and the lovely pink of the budding kusum, combined with the crystal clear sparkling waters of the Ramganga river, must surely form a scene of beauty that can have few equals anywhere in the world. But the Patli Doon is part only of this chosen spot. At its lower end the hills close in on the river, and between Boksar and Kalagarh there is precipitous and lovely gorge where great slabs of bare sandstone and vertical rock strata alternate with deep-sided damp ravines where ferns, orchids and tropical creepers flourish. Through this striking gorge flows the river sometimes foaming over boulders, sometimes burying itself into great pools of unknown depth and tenanted by huge mahseer and goonch, while on sandbanks and rocks are often to be seen basking in the sun both species of India's inland crocodiles. The gorge terminates very suddenly at Kalagarh, where the last outer rampart of the Himalayas occurs, and the river passes out of the Park into the great flat bhabar tract

below. Then again there is another steep gorge at the upper end of the doon, whereas to the south there is a wild and broken tangle of hills, valleys and streams, totally uninhabited by man except for the forest staff and occasional timber contractors' workmen, where one can wander at will in untrodden wildernesses covered with tiger tracks, and where one may meet at any time any of the numerous kinds of animals that inhabit this favoured tract.

The wild animal population of the Hailey Park consists of a great variety of species. There are a few wild elephants, but a good deal of the area is too rough for these huge animals; a very large number of tigers; a few leopards, hyenas and jackals with an occasional wild dog; a fair number of sloth and Himalayan black bears; a very large number of chital, some with fine heads; a lesser number of sambar generally with poor antlers; some magnificent hog deer in the Patli Doon and numerous kakar everywhere; a very occasional serow and a fair number of goral; mongooses, palm-squirrels and flying squirrels, ratels, wild cats and otters. It is hoped in due course to introduce also gond (swamp deer) and a better strain of sambar. There are gharial and mugger in the rivers and a few pythons, hamadryads, cobras and Russell's vipers scattered about the forests. The fishing in the Ramganga river used to be very good indeed, but it has been very seriously upset by the construction of a hydro-electric dam across the Ramganga some 20 miles below the Park which has largely cut off the migratory fish. The river is, however, readjusting itself to the new conditions and quite good mahseer and Indian trout fishing is to be had in the spring and summer months. There are also huge goonch that lurk in the rapids and deep pools, and a good many other species of fish

that are not usually caught on rod and line.

The above should give some idea of the type of country and inhabitants of the Hailey Park and it remains to explain how to get there and what arrangements to make for a visit. The Forest Department during the last few years have done a very great deal to make the Park more accessible, and a system of fair weather motor roads has now been constructed making it possible to see most of the Park from a light car skilfully driven, between December and June. The nearest railheads are Kotdwara and Ramnagar and it is also possible to motor from Dehra Dun, Ranikhet, Lansdowne, Haldwani or Naini Tal. The distance from Ramnagar to Sultan, one entrance to the Park, is about 14 miles. From Haldwani to Sultan is about 50 miles and from Dehra Dun to Kalagarh about 90 miles. Permission to enter the Park should be obtained from the D.F.O., Kalagrah Division, Lansdowne, or the D.F.O., Ramnagar Division, Ramnagar, from whom maps of the Park can be obtained. Absolutely no shooting is allowed but daylight photography is permitted and permits to fish in the Ramganga are issued. There are forest rest-houses at Sultan, Gairal, Sarapduli, Dhikala, Boxar, Kalagarh, Paterpani, Gaujpani and Jamnagwar in the Kalagarh Division, and Malani and Bijrani in Ramnagar Division, permits to occupy which, if available, may be obtained from the D.F.O's, concerned. These rest-houses contain essential furniture, but no crockery, lamps or sweepers. They are not always available and visitors who intend making a prolonged stay should bring tents. Food supplies are scarce and visitors must bring

a large supply of tinned provisions. No petrol is available except in Ramnagar or Kotdwara. The D.F.O., Kalagarh Division, can sometimes help with a limited supply of milk, vegetables and possibly goats, fowls and eggs. Fish can be caught by the skilful—in the Ramganga river. Visitors are strongly advised to employ one or two dak runners to bring out food and letters from Ramnagar.

The roads in the Park are all unmetalled and are motorable only during fine weather between December and June. Communications are sometimes cut by heavy winter rains in January and February. The climate is fairly good and cool, particularly at night, but a

mosquito net should be used.

A limited number of visitors will now be welcome, but a large influx of people is most undesirable until the Park has been in existence sufficiently long for the animals to become tamer and more used to human beings. Communications are being improved year by year and it is to be hoped that at the end of another decade, Northern India will possess a National Park comparable to the fine National Parks of other countries.'

2. The Rajaji Wild Life Sanctuary

Members will be interested in some details of the Kansrau Sanctuary formed in 1940-41 and recently named after the last of the long line of the Governors-General of India. It is situated in the Siwalik Hills, Saharanpur Forest Division of Uttar Pradesh.

The information is extracted from notes contributed by Mr. G. M. Johri, D.F.O., Dehra Dun Forest Division, through the Conservator of

Forests, Western Circle, U.P., Naini Tal.

The Sanctuary covers an area of nearly 64,902 acres or 101 square

miles and includes some former Shooting Blocks.

The upper parts are very rugged and precipitous, sometimes broken with slopes and gradients of all kinds. The middle slopes are at places moderate to steep, or fairly level to slightly undulating, with a general slope towards the south forming a flat to undulating base in the submontane area along the forest motor road and the Khara-Hardwar cart road.

Rock and soil is mainly sandstone, with loose conglomerate beds in the upper parts. There are about sixteen raus (ravines) and numerous feeder nalas and sōts (precipitous water courses). Most of these remain dry for the greater part of the year. In fact, water is available in only a few of them till the advent of the hot season when most of them, except in the middle zone, appear to be waterless. In the north east of the Sanctuary water is available all the year round as the Suswa and Song rivers flow on that side. Natural springs are rare.

The Sanctuary is traversed by the Dehra-Saharanpur metalled road through the Mohand Pass down to the Mohand, and a forest motor road runs along the submontane tract from east to west joining Dholkand, Mohand, and Shakumbheri Forest Rest House; while the Khara-Hardwar District Board public road forms the southern border of the

Sanctuary.

On the upper Siwalik slopes, the jagged summits of which attain an elevation of 3,000 feet, the forest is stunted and open consisting on the southern side of pines (Pinus longifolia) and scattered Anogeissus

latifolia, Boswellia serrata, Buchanania latifolia, Odina wodier, Ougenia dalbergioides, and Garuga pinnata. The middle and lower hills are clothed with a better type of forest among which are A. latifolia, O. wodier, G. pinnata, Bauhinia purpurea, B. malabarica, Diospyros tomentosa, Albizzia lebbek, Acacia catechu, Terminalia belerica, T. tomentosa, Cassia fistula, Ficus religiosa, F. bengalensis, Emblica officinalis, Lagerstroemia parviflora, and other trees and shrubs of the area.

The strips of forest along the ravine beds and sides consist chiefly of shisham (Dalbergia sissoo) and khair (Acacia catechu) in the riverain tracts; and sal (Shorea robusta), Terminalia tomentosa, T. belerica, Cedrela toona, Adina cordifolia, Mitragyna parvifolia, Bauhinia purpurea, B. malabarica, Anogeissus latifolia, Kydia calycina, Zizyphus jujuba, Z. xylopyra, Lagerstroemia parviflora, Bombax malabaricum, Sterculia villosa, Albizzia lebbek, Casearia tomentosa, Ficus religiosa, F. bengalensis, F. glomerata, Ougenia dalbergioides, Ehretia laevis, Aegle marmelos, Limonia acidissima, Holoptelea integrifolia, Grewia elastica, Diospyros tomentosa, Holarrhena antidysenterica, Wrightia tomentosa, on the plateaus of the submontane tracts.

The under-storey consists of Mallotus philippensis, Zizyphus xylopyra, Holarrhena antidysenterica, Carissa opaca, in parts with undergrowth of Helicteres isora, Adhatoda vasica, and various grasses. The upper and middle hills are fairly covered with Pollidinium angustifolium, Chrysopogon montanus, and Heteropogon contortus grasses; whereas the strips along ravines are thickly stocked with 'ula' and 'dhub' (Cynodon dactylon which is the chief and best of pasture and fodder grasses), Saccharum munja etc.

In places along the ravines are fair strips of evergreen forest with

In places along the ravines are fair strips of evergreen forest with such species as Eugenia jambolana, Machilus gamblei, Phoebe lanceolata, Litsaea polyantha, etc. The canopy is closer in the area

east of the Dehra-Saharanpur metalled road.

Bamboo occurs throughout the region in the middle and upper parts.

WILD LIFE

The area contains all the larger animals of the northern forests of the U.P., viz., Elephant, Sambar, Chital, Barking Deer, Goral, Tiger, Panther, Sloth Bear, and a very few Himalayan Black Bear when the honey season is on. There are also hyenas and wild pig. Of the smaller carnivora there are the Common Jungle Cat, the Leopard Cat, the Common Palm-Civet or Toddy Cat, and perhaps the rare Spotted Linsang or Tiger Civet. The Himalayan Yellow-throated Marten will be seen, and perhaps the Red Flying-squirrel, and of course the ubiquitous Five-striped Palm Squirrel. Wolves and foxes appear to be now absent from the area as they are very seldom seen; wild dogs occur. Hyenas mostly frequent the rocky ravines and may be found singly or in family parties. Porcupines are not uncommon and do damage to young trees. The Indian Pangolin or Scaly Ant-eater also the Ratel or Honey-Badger occur, but are seldom seen. Jackals will be both seen and heard.

In the rivers and deep pools are crocodiles of both species, (Gharial

and Mugger) and the Smooth Indian Otter hunts along the rivers, streams, and jungle pools where they exist. Pythons of the Siwaliks grow to more than usual dimensions. Of the poisonous snakes there are cobras, daboias, kraits, saw-scaled vipers, all of which can be deadly to man, and the King Cobra or Hamadryad may perhaps be met with. Besides these is a number of non-poisonous species, and of those of green coloration the Common Green Pit Viper may be mentioned as non-lethal to man but the bite of which may cause severe local effects and constitutional disturbances.

Of the Primates the Common Langur or Hanuman Monkey, and the Rhesus Macaque or Bandar, are common in both the forest area and

in the neighbourhood of habitations.

Among ground or small game, are hares, peafowl, red jungle-fowl, spur fowl, black partridges, and various species of quail. The

Kalij pheasant is found in the interior in suitable places.

Part of the taungya plantations in Barkala Range in Shambukheri, Sahansra, and Kothri Blocks come within the limits of the Sanctuary and under the new Working Plan such plantations are to be extended along the submontane tracts. These will afford added cover for birds and the smaller animals.

The wild elephant is somewhat rare in the Sanctuary, but sometimes two or three may be seen roaming in suitable environment. One of these is a big tusker, supposed to be the biggest ever seen in Uttar Pradesh, and Mr. F. W. Champion took several photographs of this animal in various situations.

Where tracks disclose the presence of tigers they could be observed in the early mornings or late afternoons in selected places, success being more likely from elephant back. In this way also many other animals of the area and their tracks could be observed, should a riding elephant be available and the necessary permission obtained from the appointed forest official.

Sambar mostly select *Boswellia serrata* on the higher ground for their mid-day rest, lying up under some isolated tree. They travel long distances in search of food, and may be seen in small parties of two or

three animals.

The Spotted Deer or Chital is widely distributed in the area being the most gregarious of Indian deer. The herds may include hundreds of individuals and the lovely creatures become very tame in a sanctuary. Being mostly partial to low level ground they are readily observed by the visitor. The record head of $39\frac{1}{4}$ in. was obtained in Bahraich, but several heads of 39 in. have been shot in the Siwalik forests.

Barking deer will be seen, and also heard calling to one another or giving loud alarm calls on scent or sight of the larger felines. The nimble Goral (wild goats) frequent the rocky ground and steeper places in the middle of the forests, and are usually associated in small parties

of 4 to 8 animals. Their principal enemy is the panther.

The sloth bear may perhaps be seen, and an occasional wild boar or a sounder of wild pig will be encountered. There are in the area some hundreds of species of wild birds including several eagles and smaller birds of prey, and vultures. For the camera are many attractive subjects, both scenery and mankind, and the visitor to this Sanctuary is sure of much enjoyment and many pleasing memories.